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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/282,729 03/31/99 SOUTAR

A 17564-094 (DB)

IM22/0814

A JASON MIRABITO
WOLF GREENFIELD & SACKS
FEDERAL RESERVE PLAZA
600 ATLANTIC AVENUE
BOSTON MA 02210-2211

EXAMINER

TALBOT, B

ART UNIT

PAPER NUMBER

1762

DATE MAILED:

08/14/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/282,729

Applicant(s)

SOUTAR ET AL.

Examiner

Brian K Talbot

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2000.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some * c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) _____.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

Art Unit: 1762

1. The amendment filed 6/2/00 has been considered and entered. Claims 19-25 have been added. Claims 1-25 remain in the application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. In light of the amendment filed 6/2/00, the 35 USC 112 rejections have been withdrawn. The 35 USC 103 rejection has been withdrawn, however, the following rejection has been necessitated by the amendment.

Claim Rejections - 35 USC § 103

4. Claims 1-9 and 11-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Greenberg et al. (3,993,845) in combination with Applicant admitted state of the art (specification, pg. 1, line 8 – pg. 9, line 26).

Greenberg et al. (3,993,845) teaches novel copper-silver metallic films prepared on transparent articles by chemical replacement of silver for copper. According to the method the transparent article is coated with copper by conventional methods of deposition. The copper article is then contacted by a solution comprising a silver salt, ammonia and a complexing agent which promotes replacement but which does not accelerate the oxidation of residual metallic copper in the film (see abstract). The surface of the substrate to be coated is first cleaned by conventional cleaning procedures (col. 2, line 67 - col. 3, line 2). The complexing agent utilized

Art Unit: 1762

includes ethylenediamine tetra acetic acid (col. 3, lines 9-14). The concentration of silver nitrate is typically between 0.5 to 5.0 grams (col. 5, lines 29-35) or approximately 1 gram/l (see Examples). The concentration of complexing agent is from 1 to 8 grams/liter and depends upon the type utilized (col. 5, lines 35-45). The replacement solution is maintained in contact with the film at room temperature, i.e. 23°C, for a period of from less than one minute to five minutes (col. 5, lines 45-50) and can be in the range of 20°C to 90°C (col. 6, lines 62-65). The replacement solution is then rinsed from the article and dried with air (col. 5, lines 53-55). Thiosulfate complexing agent are not used since it has been found to accelerate the subsequent oxidation of residual copper in the film (col. 3, lines 14-17).

Greenberg et al. (3,993,845) fails to teach the displacement coating of silver on copper with respect to bare boards for printed circuit board.

Applicant admitted state of the art (specification, pg. 1, line 8 – pg. 9, line 26) teaches that it is well known to use silver coatings on copper substrates utilized in printed circuit boards for protection against oxidation.

Therefore, it would have been obvious for one skilled in the art at the time the invention was made to have utilized Greenberg et al. (3,993,845) silvering of copper on circuit boards as evidenced by Applicant admitted state of the art (specification, pg. 1, line 8 – pg. 9, line 26) because of the expectation of achieving similar results and the fact that silvering of copper is well known in the circuit board art.

Art Unit: 1762

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Greenberg et al. (3,993,845) in combination with Applicant admitted state of the art (specification, pg. 1, line 8 – pg. 9, line 26) further in combination with Donley et al. (4,171,393).

Greenberg et al. (3,993,845) in combination with Applicant admitted state of the art (specification, pg. 1, line 8 – pg. 9, line 26) fail to teach a solution free of a reducing agent.

Donley et al. (4,171,393) teaches a plating bath requiring no reducing agent.

Therefore, it would have been obvious for one skilled in the art at the time the invention was made to have modified Greenberg et al. (3,993,845) coating bath by not incorporating a reducing agent as evidenced by Donley et al. (4,171,393) because of the expectation of achieving similar success.

Response to Amendment

5. Applicant's arguments with respect to claims 1-25 have been considered but are moot in view of the new ground(s) of rejection.

6. It is noted that the rejection in the previous Office action recited Greenberg et al. (3,993,845) in view of Donley et al. (4171393), however, the rejection detailed only a discussion on Greenberg et al. Hence, it is clear from the record that the rejection inadvertently recited Donley et al. (4,171,393). Applicant's arguments addressed only Greenberg et al. (3,993,845) which clearly indicates that the applicant interpreted the rejection as indicated above.

Art Unit: 1762

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian K Talbot whose telephone number is (703) 305-3775. The examiner can normally be reached on Tuesday-Friday 7AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive P Beck can be reached on (703) 308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-6078 for regular communications and (703) 305-6357 for After Final communications.

Application/Control Number: 09/282,729

Page 6

Art Unit: 1762

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3775.



Brian K Talbot
Primary Examiner
Art Unit 1762

BKT
August 11, 2000